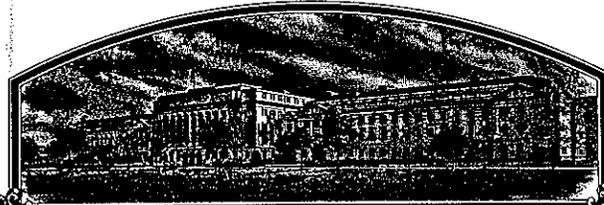


No.

8800236



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Western Plant Breeders, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS PROVIDED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

'Westbred Sprinter'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D. C. this 30th day of August in the year of our Lord one thousand nine hundred and ninety-one.

Attest:

Kenneth Hoans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Ed Madigan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
 AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Western Plant Breeders, Inc.		2. TEMPORARY DESIGNATION BU 583-50	3. VARIETY NAME WestBred Sprinter
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 8111 Timberline Drive Bozeman, MT 59715		5. PHONE (Include area code) (406) 587-1218	FOR OFFICIAL USE ONLY VPVO NUMBER 8800236
6. GENUS AND SPECIES NAME <u>Hordeum vulgare</u>	7. FAMILY NAME (Botanical) Graminea		FILING DATE <u>Sept. 14, 1988</u> TIME 10:35 <input checked="" type="checkbox"/> A.M. <input type="checkbox"/> P.M.
8. KIND NAME Barley	9. DATE OF DETERMINATION September 1, 1985		FEE RECEIVED AMOUNT FOR FILING \$ 1800.00 DATE <u>Sept. 14, 1988</u> AMOUNT FOR CERTIFICATE \$ 200.00 DATE <u>July 30, 1991</u>
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			12. DATE OF INCORPORATION 9/27/1985
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Maryland			

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
 Dr. Dale R. Clark and Craig Cook
 8111 Timberline Drive
 Bozeman, Montana 59715
 PHONE (Include area code): (406) 587-1218

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

- a. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- b. Exhibit B, Novelty Statement.
- c. Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.)
- d. Exhibit D, Additional Description of Variety.
- e. Exhibit E, Statement of the Basis of Applicant's Ownership.

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.)
 Yes (If "Yes," answer items 16 and 17 below) No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
 Yes No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
 Foundation Registered Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
 Yes (If "Yes," give date)
 No

19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
 Yes (If "Yes," give names of countries and dates)
 U.S.A. September 20, 1987
 No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.
 The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.
 Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT <u>Dale R. Clark</u>	DATE <u>Sept 13, 1988</u>
SIGNATURE OF APPLICANT <u>Craig R. Cook</u>	DATE <u>Sept 13, 1988</u>

WESTBRED SPRINTER

14a.

WestBred Sprinter (experimental # BU 583-50) was selected by Western Plant Breeders from their winter nursery near Burley, Idaho in August of 1982. WestBred Sprinter was selected as a single F₄ plant from a Winter Barley Composite developed by Dr. Neal Jensen at Cornell University. A F₅ plot was planted near Burley, Idaho in the spring of 1983 to separate spring types from true winters. WestBred Sprinter was of the type that was able to head from a spring planting. WestBred Sprinter was tested in winter planted and spring planted nurseries in Idaho, Washington and Montana in 1984, 1985 and 1986. A total of 450 plant plots selected from a bulk F₇ were planted near Phoenix, AZ in the fall of 1985. Uniform plant plots were harvested in bulk in May of 1986 and the resulting F₈ seed was designated Breeders seed. The Breeders seed was used to plant 40 acres near Bozeman, Montana in May of 1986. The resulting production was harvested as Foundation seed and designated "WestBred Sprinter". Certified seed of WestBred Sprinter was first released to the grower in late September of 1987.

WestBred Sprinter is a stable and uniform variety in appearance and performance across several generations and growing conditions. Agronomic data to support this stability are presentation tables I-a thru V.

WESTBRED SPRINTER

14b.

WestBred Sprinter is a long-awned, six-rowed, medium height winter hardy spring barley that is late in maturity. The plant growth type of WestBred Sprinter is most similar to Boyer. However, WestBred Sprinter flowers about 3-4 days later than Boyer in a winter planting. WestBred Sprinter also has a purplish tinge at the tip of the awns and the lemma veins may show traces of anthocyanin where Boyer does not. As a spring planted crop WestBred Sprinter is approximately 5 days later flowering than WestBred Gustoe and is 6-10 inches taller. The above comparisons along with the complete objective description (14c.) show WestBred Sprinter to be a novel variety of barley.

14e.

Western Plant Breeders, Inc. is the employer of the breeders and rightfully therefore the owner of "WestBred Sprinter".

OBJECTIVE DESCRIPTION OF VARIETY
BARLEY (HORDEUM VULGARE)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Western Plant Breeders, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

8111 Timberline Dr. Bozeman, MT. 59715

FOR OFFICIAL USE ONLY

PVPO NUMBER

8800236

VARIETY NAME OR TEMPORARY DESIGNATION

WESTBRED SPRINTER

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (i.e. or) when number is either 99 or less or 9 or less.

1. GROWTH HABIT:

1 = SPRING 2 = FACULTATIVE WINTER 3 = WINTER Early Growth: 1 = PROSTRATE 2 = SEMIPROSTRATE 3 = ERECT

2. MATURITY (50% Flowering):

1 = EARLY (California Mariout) 2 = MIDSEASON (Betzes) 3 = LATE (Frontier)

No. of days Earlier than } 1 = BETZES 2 = CALIFORNIA MARIOUT 3 = CONQUEST 4 = DICKSON
 No. of days Later than } 5 = PIROLINE 6 = PRIMUS 7 = UNITAN 8 = steptoe X = NONE

3. PLANT HEIGHT (From soil level to top of head):

1 = SEMIDWARF 2 = SHORT (California Mariout) 3 = MEDIUM TALL (Betzes) 4 = TALL (Conquest)

Cm. Shorter than } 1 = BETZES 2 = CALIFORNIA MARIOUT 3 = CONQUEST 4 = DICKSON
 Cm. Taller than } 5 = PIROLINE 6 = PRIMUS 7 = UNITAN 8 = steptoe 9 = WestBred Gustoe

4. STEM:

Exertion (Flag to spike at maturity): 1 = 0 - 3 cm. 2 = 3 - 10 cm. 3 = 10 - 15 cm. Anthocyanin: 1 = ABSENT 2 = PRESENT

NO. OF NODES (Originating from node above ground)

Collar Shape: 1 = CLOSED 2 = V-SHAPED 3 = OPEN 4 = MODIFIED CLOSED OR OPEN Shape of Neck: 1 = STRAIGHT 2 = SNAKY 3 = OTHER (Specify)

5. LEAF:

Basal leaf sheath (seedling): 1 = GLABROUS 2 = PUBESCENT Position of flag leaf (at boot stage): 1 = DROOPING 2 = UPRIGHT

Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY 3 = WAXY MM. WIDTH (First leaf below flag leaf)

CM. LENGTH (First leaf below flag leaf) Anthocyanin in leaf sheath: 1 = ABSENT 2 = PRESENT

6. HEAD:

Type: 1 = TWO-ROWED 2 = SIX-ROWED Density: 1 = LAX 2 = ERECT (Not dense) 3 = ERECT (Dense)

Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY 3 = WAXY

Lateral Kernels Overlap: 1 = NONE 2 = AT TIP 3 = 1/4 - 1/2 OF HEAD Rachis (Hair on edge): 1 = LACKING 2 = FEW 3 = COVERED

7. GLUME:

Length: 1 = 1/3 OF LEMMA 2 = 1/2 OF LEMMA 3 = MORE THAN 1/2 OF LEMMA Hairs: 1 = NONE 2 = SHORT 3 = LONG

Hair covering: 1 = NONE 2 = RESTRICTED TO MIDDLE 3 = CONFINED TO BAND 4 = COMPLETELY COVERED

Awns: 1 = LESS THAN EQUAL TO LENGTH OF GLUMES 2 = EQUAL TO LENGTH OF GLUMES 3 = MORE THAN EQUAL TO LENGTH OF GLUMES

Awn Surface: 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH

8. LEMMA:

5 Awn: 1 = AWNLESS 2 = AWNLETS ON CENTRAL ROWS, AWNLESS ON LATERAL ROWS
 3 = SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4 = SHORT (less than equal to length of spike)
 5 = LONG (longer than spike) 6 = HOODED

2 Awn Surface: 0 = AWNLESS 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH

2 Teeth: 1 = ABSENT 2 = FEW 3 = NUMEROUS 1 Hair: 1 = ABSENT 2 = PRESENT

3 Shape of base: 1 = DEPRESSION 2 = SLIGHT CREASE 1 Rachilla Hairs: 1 = SHORT 2 = LONG
 3 = TRANSVERSE CREASE

9. STIGMA:

2 Hairs: 1 = FEW 2 = MANY

10. SEED:

2 Type: 1 = NAKED 2 = COVERED 1 Hairs on Ventral Furrow: 1 = ABSENT 2 = PRESENT

3 Length: 1 = SHORT (8.0 mm.) 2 = SHORT TO MIDLONG (7.5 - 9.0 mm.) 3 = MIDLONG (8.5 - 9.5 mm.)
 4 = MIDLONG TO LONG (9.0 - 10.5 mm.) 5 = LONG (10.0 mm.)

2 Wrinkling of hull: 1 = NAKED 2 = SLIGHTLY WRINKLED 3 = SEMIWRINKLED 4 = WRINKLED

1 Aleurone Color: 1 = COLORLESS (White or Yellow) 2 = BLUE

0 1 PERCENT ABORTIVE 4 4 GMS. PER 1000 SEEDS

11. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

<input type="checkbox"/> 0 SEPTORIA	<input type="checkbox"/> 2 NET BLOTCH	<input type="checkbox"/> 0 SPOT BLOTCH	<input type="checkbox"/> 1 POWDERY MILDEW
<input type="checkbox"/> 0 LOOSE SMUT	<input type="checkbox"/> 0 BACTERIAL BLIGHT	<input type="checkbox"/> 0 COVERED SMUT	<input type="checkbox"/> 0 FALSE LOOSE SMUT
<input type="checkbox"/> 0 STEM RUST	<input type="checkbox"/> 0 LEAF RUST	<input type="checkbox"/> 0 SCAB	<input type="checkbox"/> 2 SCALD
<input type="checkbox"/> 0 AY	<input type="checkbox"/> 0 BSMV	<input type="checkbox"/> 1 BYDV	<input type="checkbox"/> 0 OTHER (Specify)

12. INSECT: (0 = Not tested, 1 = Susceptible 2 = Resistant)

<input type="checkbox"/> 0 GREEN BUG	<input type="checkbox"/> 0 ENGLISH GRAIN APHID	<input type="checkbox"/> 0 CHINCH BUG	<input type="checkbox"/> 0 ARMYWORM
<input type="checkbox"/> 0 GRASS HOPPERS	<input type="checkbox"/> 0 CERIAL LEAF BETTLE	<input type="checkbox"/> 0 OTHER (Specify)	
HESSIAN FLY RACES	<input type="checkbox"/> 0 GP	<input type="checkbox"/> 0 A	<input type="checkbox"/> 0 B
	<input type="checkbox"/> 0 D	<input type="checkbox"/> 0 E	<input type="checkbox"/> 0 F
		<input type="checkbox"/> 0 C	<input type="checkbox"/> 0 G

13. CHEMICAL (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

0 DDT 0 OTHER (Specify)

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Boyer	Seed size	Boyer
Leaf size	Boyer	Coleoptile elongation	Boyer
Leaf color	Boyer	Seedling pigmentation	Boyer
Leaf carriage	Boyer		

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

1. Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
2. Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 - 84.
3. Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.

WESTBRED SPRINTER

Table I-a. Yield in pounds per acre of WestBred Sprinter and presently grown varieties in Western Plant Breeders spring barley trials.

<u>Location</u>	<u>Year</u>	<u>WestBred Sprinter</u>	<u>Gus</u>	<u>WestBred 501</u>	<u>WestBred Gustoe</u>	<u>Columbia</u>	<u>Steptoe</u>
Bozeman, MT	1985	5626	--	5162	5626	5162	5684
	1986	7830	7366	7134	7366	7540	8294
Burley, ID	1985	5336	--	5800	5626	5626	6612
	1986	6156	6588	6426	6804	7722	7668
Moses Lake, WA	1986	7482	5974	5452	6960	7424	8178
Yakima, WA	1985	7680	--	6758	6963	7834	7424
	1986	5778	5940	6210	5616	6156	6534
7 yr. Avg.		6555	--	6134	6423	6781	7199

WESTBRED SPRINTER

Table I-b. Yield in pounds per acre of WestBred Sprinter and presently grown varieties in Western Plant Breeders winter barley trials.

<u>Location</u>	<u>Year</u>	<u>WestBred Sprinter</u>	<u>Boyer</u>	<u>Kamiak</u>	<u>Schuyler</u>
Burley, ID	1984	7076	6786	4524	6438
	1986	5645	5220	3983	5162
Steptoe, WA	1984	7018	6612	6090	6496
	1985	5050	5550	4650	5300
	1986	4795	4543	4369	4466
Walla Walla, WA	1986	4582	4157	5162	5104
Denton, MT	1986	2268	2376	2052	1404

WESTBRED SPRINTER

Table II-a. Plant height in inches of WestBred Sprinter and presently grown spring varieties in Western Plant Breeders yield trials.

<u>Location</u>	<u>Year</u>	<u>WestBred Sprinter</u>	<u>Gus</u>	<u>WestBred 501</u>	<u>WestBred Gustoe</u>	<u>Columbia</u>	<u>Steptoe</u>
Bozeman, MT	1985	32	--	26	26	28	33
	1986	31	25	24	23	28	31
Burley, ID	1986	30	24	25	23	27	32
Moses Lake, WA	1986	25	22	21	19	23	27
Yakima, WA	1985	37	--	26	25	30	35
	1986	35	30	29	28	36	37
Steptoe, WA (D)	1985	33	--	27	23	27	36
	1986	28	24	--	18	21	30

WESTBRED SPRINTER

Table II-b. Plant height in inches of WestBred Sprinter and presently grown winter varieties in Western Plant Breeders winter barley trials.

<u>Location</u>	<u>Year</u>	<u>WestBred Sprinter</u>	<u>Boyer</u>	<u>Kamiak</u>	<u>Schuyler</u>
Burley, ID	1986	35	36	36	37
Steptoe, WA	1984	40	38	44	45
	1985	33	30	29	31
	1986	21	24	35	26
Walla Walla, WA	1986	35	37	36	30

WESTBRED SPRINTER

Table III. Heading date of WestBred Sprinter and presently grown spring varieties in Western Plant Breeders yield trials.

<u>Location</u>	<u>Year</u>	WestBred <u>Sprinter</u>	<u>Gus</u>	WestBred <u>501</u>	WestBred <u>Gustoe</u>	<u>Columbia</u>	<u>Steptoe</u>
Bozeman, MT	1985	7/12	7/5	7/5	7/7	7/9	7/1
	1987	7/8	7/2	7/2	7/6	7/4	6/30

WESTBRED SPRINTER

Table IV. Agronomic data for WestBred Sprinter and presently grown spring varieties in University of California Cooperative Extension Trials (Tulelake, CA) 1986.

	<u>WestBred Sprinter</u>	<u>Gus</u>	<u>WestBred Gustoe</u>	<u>Columbia</u>	<u>Steptoe</u>	<u>Gallatin</u>
YIELD (lbs/ac)	6410	6860	6840	7110	5590	5820
LODGING %	19%	7%	7%	-0-	-0-	-0-
SHATTER %	-0-	2%	-0-	-0-	4%	9%
T.W. (lbs/bu)	50.4	48.3	50.8	49.3	48.2	54.4

WESTBRED SPRINTER

Table V. Agronomic data for WestBred Sprinter and Check varieties grown at Aberdeen, Idaho in 1986.

<u>YIELD</u>	<u>WestBred Sprinter</u>	<u>Gus</u>	<u>Columbia</u>	<u>Steptoe</u>	<u>Russell</u>
Yield (bu/ac.)	118.3	111.6	107.8	119.0	116.0
Test Weight (lbs/bu)	49.6	49.5	47.7	48.6	49.6
Heading Date	7/10	7/5	7/13	6/29	6/30
Plant Height (inches)	29	34	27	30	32

WESTBRED SPRINTER

Table VI. Heading dates of fall planted WestBred Sprinter compared to check varieties.

<u>Location</u>	<u>Year</u>	<u>WestBred</u>			
		<u>Sprinter</u>	<u>Schuyler</u>	<u>Boyer</u>	<u>Kamiak</u>
Bozeman, MT	1990	6/24	6/20	6/20	6/9
"	1988	6/13	6/14	6/8	-
"	1987	6/13	6/12	6/10	-
"	1984	6/15	6/13	6/12	6/5

8800236

WestBred Sprinter

